

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A generically modified plant cell comprising at least one foreign nucleic acid molecule encoding an OK1 protein, which wherein said plant cell has an increased activity of at least one OK1 protein and at least one R1 protein in comparison with corresponding wild type plant cells that have not been genetically modified.
2. (Currently amended) The genetically modified plant cell according to Claim 1, wherein the foreign nucleic acid molecule comprises
 - (a) a nucleic acid sequence encoding an amino acid sequence of SEQ ID NO: 2 or SEQ ID NO: 4;
 - (b) a nucleic acid sequence encoding an amino acid sequence with an identity of at least 95% with SEQ ID NO: 2 or SEQ ID NO: 4;
 - (c) a nucleic acid sequence comprising SEQ ID NO: 1 or SEQ ID NO: 3, or a complementary sequence thereof;
 - (d) a nucleic acid sequence with an identity of at least 95% with the nucleic acid sequences of (a) or (c);
 - (e) a nucleic acid sequence that hybridizes with at least one strand of the nucleic acid molecule of (a) or (c) under stringent conditions, wherein said stringent conditions are conducting the hybridization reaction at 65°C-68°C in a solution comprising 2X SSC 10X Denhardt solution (Ficoll 400+PEG+BSA: Ratio 1:1:1); 0.1% SDS; 5 mM EDTA; 50 mM Na₂HPO₄; 250 µg/ml herring sperm DNA; 50 µg/ml tRNA; or 25 M sodium phosphate buffer pH 7.2; 1 mM EDTA; 7% SDS, and washing at 65°C-68°C in a solution comprising 0.1 X SSC and 0.1% SDS; or
 - (f) a nucleic acid sequence which deviates from the sequence of the nucleic acid molecules identified under (a), (b), (c), (d) or (e) due to the degeneration of the genetic code
genetic modification comprises at least one foreign nucleic acid molecule introduced into the genome of the plant.

3. (Canceled)
4. (Currently amended) The genetically modified plant cell according to Claim 1 [[2]], ~~wherein~~ further comprising at least one foreign nucleic acid molecule ~~codes~~ encoding an R1 protein.
5. (Canceled).
6. (Currently amended) The genetically modified plant cell according to Claim 1 [[4]], wherein the foreign nucleic acid molecule coding an R1 protein codes an R1 protein of potato, wheat, maize, rice, soybean, citrus or *Arabidopsis*.
7. (Previously amended) A genetically modified plant cell according to Claim 1, which synthesizes a modified starch in comparison with corresponding wild type plant cells that have not been genetically modified.
8. (Previously amended) The genetically modified plant cell according to Claim 7, wherein the modified starch has an increased concentration of starch phosphate and/or a changed phosphate distribution in comparison with starch isolated from corresponding wild type plant cells that have not been genetically modified.
9. (Previously amended) The genetically modified plant cell according to Claim 8, wherein the modified starch has a changed ratio of C-3 phosphate to C-6 phosphate.
10. (Previously amended) A plant comprising one or more genetically modified plant cells according to Claim 1.
11. (Previously amended) A plant according to Claim 10, which is a starch-storing plant.
12. (Previously amended) A plant according to Claim 11, which is a maize plant or wheat plant.
13. (Currently amended) Propagation material ~~comprising the of a plant cell~~ according to Claim 10.

14. (Currently amended) A harvestable plant part comprising the ~~of a plant cell~~ according to Claim 10.

15. (Currently amended) A method of manufacturing a genetically modified plant according to Claim 10 comprising:

a) introducing at least one foreign nucleic acid molecule encoding an OK1 protein into the genome of a plant cell to obtain a genetically modified plant cell genetically modifying a plant cell, wherein the ~~genetic modification increases the plant cell has an increased~~ activity of an OK1 protein and an R1 protein in comparison with corresponding wild type plant cells that have not been genetically modified;

b) regenerating a plant from one or more plant cells from Step a); and

c) optionally producing one or more additional plants from a plant according to Step b).

16. (Previously amended) The method according to Claim 15, wherein the foreign nucleic acid molecule comprises

(a) a nucleic acid sequence encoding an amino acid sequence of SEQ ID NO: 2 or SEQ ID NO: 4;

(b) a nucleic acid sequence encoding an amino acid sequence with an identity of at least 95% with SEQ ID NO: 2 or SEQ ID NO: 4;

(c) a nucleic acid sequence comprising SEQ ID NO: 1 or SEQ ID NO: 3, or a complementary sequence thereof;

(d) a nucleic acid sequence with an identity of at least 95% with the nucleic acid sequences of (a) or (c);

(e) a nucleic acid sequence that hybridizes with at least one strand of the nucleic acid molecule of (a) or (c) under stringent conditions, wherein said stringent conditions are conducting the hybridization reaction at 65°C-68°C in a solution comprising 2X SSC 10X Denhardt solution (Ficoll 400+PEG+BSA; Ratio 1:1:1); 0.1% SDS; 5 mM EDTA; 50 mM Na₂HPO₄; 250 µg/ml herring sperm DNA; 50 µg/ml tRNA; or 25 M sodium phosphate buffer pH 7.2; 1 mM EDTA; 7% SDS, and washing at 65°C-68°C in a solution comprising 0.1 X SSC and 0.1% SDS; or

~~(f) a nucleic acid sequence which deviates from the sequence of the nucleic acid molecules identified under (a), (b), (c), (d) or (e) due to the degeneration of the genetic code genetic modification comprises at least one foreign nucleic acid molecule introduced into the genome of the plant.~~

17. (Previously amended) The method according to Claim ~~15~~ 46, ~~wherein further comprising introducing~~ at least one foreign nucleic acid molecule ~~codes~~ encoding an R1 protein.

18. (Canceled)

19. (Previously amended) The method according to Claim 15, wherein the genetically modified plant synthesizes a modified starch in comparison with corresponding wild type plants that have not been genetically modified.

20. (Previously amended) The method according to Claim 19, wherein the modified starch has an increased concentration of phosphate covalently bound to the starch.

21. (Previously amended) The method according to Claim 19, wherein the modified starch has a changed ratio of C-3 phosphate to C-6 phosphate.

22. (Previously amended) A modified starch obtainable from a genetically modified plant according to Claim 10.

23. (Previously amended) A method of manufacturing a modified starch comprising extracting the starch from a genetically modified plant cell according to Claim 1.

24. (Previously amended) A method of manufacturing a modified starch comprising extracting the starch from a plant according to Claim 10.

25. (Canceled)

26. (Previously amended) A modified starch obtainable by a method according to Claim 23.

27. (Currently amended) A method of manufacturing a derived starch, ~~wherein comprising deriving a modified starch according to Claim 26.~~
28. (Previously amended) A derived starch obtainable by a method according to Claim 27.
29. (Canceled)
30. (Previously amended) A flour comprising at least one modified starch according to Claim 26.
31. (Previously amended) A flour obtainable from plant cells according to Claim 1.
32. (Currently amended) A method of manufacturing a flour comprising milling a plant according to Claim 10, ~~or propagation material or harvestable parts therefrom.~~
33. (Canceled)
34. (Previously amended) A recombinant nucleic acid molecule comprising a nucleic acid molecule coding an OK1 protein and a nucleic acid molecule coding an R1 protein.
35. (Previously amended) A vector comprising a recombinant nucleic acid molecule according to Claim 34.
36. (Previously amended) The vector according to Claim 35, wherein the recombinant nucleic acid molecules are linked with at least one regulatory sequence that initiates transcription in prokaryotic or eukaryotic cells.
37. (Previously amended) A host cell that is genetically modified with a recombinant nucleic acid molecule according to Claim 34.
38. (Previously amended) A composition comprising a recombinant nucleic acid molecule according to Claim 34.

39. (Currently amended) A composition comprising a nucleic acid sequence coding an OK1 protein, ~~and a nucleic acid sequence coding an R1 protein, a plant cell, and a synthetic cultivation medium, wherein the nucleic acid sequences exist outside the plant cell.~~

40. (Previously amended) A method comprising transforming a plant cell using a composition according to Claim 39.

41. (Previously presented) A host cell, which is genetically modified with a vector according to Claim 35.

42. (New) A method of manufacturing a flour comprising milling the propagation material of claim 13.

43. (New) A method of manufacturing a flour comprising milling the harvestable plant part of claim 14.